

AMENDMENT TO THE DRAWING(S)

The attached sheet of formal drawings replaces the original sheet including Figs. 1 and 2.

REMARKS/ARGUMENTS

The Office Action dated December 27, 2005 has been carefully considered. Claims 1-9 are pending in the present application with claim 1 being in independent form. By the present amendment, claim 1 has been amended in order to clarify the features of the present application. The minor amendments made to claim 1 are merely intended to clarify the features thereof and are in no way intended to substantively narrow the permissible scope of claim 1.

The Examiner objected to the specification because the term "AMI" at page 1, line 4 should read "EMI" and because U.S. Patent Application No. 10/146,334 referenced at page 2, line 1 of the present application was referred to by the attorney reference number. The Examiner indicated that this application has issued and required that the specification be amended to reflect the issued patent number and to delete the attorney reference number. By the present Amendment, the specification has been amended to correct the errors noted by the Examiner.

Accordingly, it is respectfully requested that the objection to the specification be reconsidered and withdrawn.

The Examiner has objected to the drawings because Fig. 1 and parts of Fig. 2 contain informal hand drawn lines and elements. One(1) sheet of formal drawings including amended Figs. 1 and 2, is submitted herewith that corrects the problems noted by the Examiner.

The Examiner further objected to the drawings under 37 C.F.R. 1.82(a) as allegedly failing to show every feature of the invention specified in the claims. Specifically, the Examiner indicates that the power transistor switching stage, the current sensor, the switch mode power supply and the converter must be shown. Applicant respectfully disagrees.

In addition, as is described in the paragraph beginning at page 2, line 19 of the present application, the present application relates to an active EMI filter in a power transistor switching circuit, for example, a converter or a switching mode power supply. Page 3 of the present application indicates that Fig. 1 illustrates the output stage of a switching mode power supply. More specifically, Fig. 1 illustrates the output stage of a buck converter as is also described at page 3 of the present application. Thus, it is respectfully submitted that the drawings do illustrate a power transistor switching stage (or circuit) in the form of the switching mode power supply and specifically in the form of a buck converter. Further, as described in the specification at page 4,

Fig. 2 illustrates the active EMI filter which includes an amplifier stage including two transistors Q1, Q2, and a current transformer CT. The direction of the current in the secondaries CT3 and CT4 of the current transformer CT controls the transistors Q1 and Q2. Thus, it is respectfully submitted that a current sensor is illustrated in the drawings as well.

The Examiner further objected to the drawings because Fig. 1 included an arrow pointing to the letter C. In the replacement sheet of drawings included herewith, this arrow has been deleted.

Accordingly, it is respectfully requested that the objections to the drawings be reconsidered and withdrawn.

Claims 1-9 have been objected to by the Examiner because the Applicant claims a “power transistor switching stage” and the description allegedly fails to support this phrase. The Examiner has suggested that this phrase be changed to “power supply”. In support of this position the Examiner contends that the only transistors discussed in the specification and the drawings are transistors Q1 and Q2 which are part of the amplifier stage of the active EMI filter as described at page 4, lines 7-8 of the present application. The Examiner further contends that since it cannot be determined what the power transistor switching circuit is and no power transistors are pictured or described in the application, the power transistor switching stage will be regarded as a power supply. Applicant respectfully disagrees.

The present application relates to an active EMI filter in a power transistor switching circuit, for example, a converter or switching mode power supply. As noted above, this aspect of the invention is clearly defined at least in the paragraph beginning at page 2, line 19 of the present application. Further, at page 3, lines 13-16, it is stated that “Fig. 1 shows the output stage of a switching mode power supply in particular, a typical buck converter. In Fig. 1, only the output stage of the buck converter is shown.” Referring to Fig. 1, this is the block labeled “Output Stage of Power Supply.” There is thus specific support for the limitation.

In addition, originally filed and presently pending claims 8 and 9 of the present application provide a further clarification of the meaning of the power transistor switching stage. As noted in claim 8, the power transistor switching stage may be a switch mode power supply and as noted in claim 9, the power transistor switching stage may be a converter. Thus, claims 8 and 9 alone provide sufficient support for the use of the term “power transistor switching stage” in claim 1 of

the present application. Further, the paragraph beginning at page 2, line 19 of the specification provides further clarification of the meaning of this phrase.

Accordingly, it is respectfully requested that the objection to claims 1-9 be reconsidered and withdrawn.

Claims 1 and 7 have been rejected under 35 U.S.C §102(b) as allegedly anticipated by *IEEE Transactions on Power Electronics*, Vol. 9, No. 3. Reconsideration of this rejection is respectfully requested.

The Examiner contends that this reference teaches a circuit arrangement that includes all of the limitations of claim 1 of the present application. In particular, the Examiner makes reference to Figure 6 and page 1, column 1, line 28 - page 3, column 1, line 2 of the reference. Applicant respectfully disagrees.

Applicant presumes that the Examiner is making particular reference to the article entitled, "Viability of Active EMI filters for utility applications" by Farkas and Schlecht which was published in *IEEE Transactions on Power Electronics*, Vol. 9, No. 3 in May of 1994 (hereinafter "Farkas et al.").

Farkas et al., as understood by Applicant, relates to EMI filter performance, and in particular, to the application of active circuitry to increase the performance per size and cost of utility-side EMI filters. Figure 3 of Farkas et al. illustrates an independent current source I_{sw} which represents the high frequency switching current of the power supply, external impedance Z_x representing the impedance of the utility, capacitor C_{rect} which absorbs the current I_{sw} generating a ripple voltage V_r which must be dropped across the active circuit with a minimal ripple current i_r conducted through to the utility. A differential amplifier with gain A , input impedance of Z_{in} and output impedance of Z_{out} is used to drop the ripple voltage. In particular, the amplifier senses the voltage across the inductor L_s and drives a proportional voltage across its low output impedance to divert the ripple current away from the utility. Thus, Farkas et al. discloses providing an EMI filter between an AC utility and an input to a high frequency switching power supply. Similarly, Figure 6 of Farkas et al. discloses providing the EMI filter between the AC utility and an input to a high frequency switching power supply. That is, Farkas et al. discloses the traditional or conventional configuration for EMI filtering as is discussed in the present application in the paragraph beginning

at page 2, line 5 of the present application which notes that EMI filters are typically provided at the input to a converter or a switching mode power supply.

In contrast, claim 1 of the present application recites “a circuit arrangement including a power transistor switching stage providing an output voltage and an active EMI filter having an input and an output, the input of the active EMI filter connected to receive the output voltage of the power transistor switching stage and the output of the active EMI filter providing a filtered output voltage.” That is, in accordance with claim 1, the active EMI filter is provided at the output of the power transistor switching device and provides a filtered output voltage.

The circuit of Figure 6 in Farkas et al. does not illustrate such a circuit arrangement. As noted above, in Farkas et al., an EMI filter is positioned between the AC line voltage from a utility company, for example, and an input to high frequency switching power supply. The output voltage of that power supply is not even illustrated in Farkas et al.

Accordingly, it is respectfully submitted that claim 1, and the claims depending therefrom, including claim 7, are patentable over the cited art for at least the reasons described above.

Claims 2 and 6 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Farkas et al. in view of U.S. Patent No. 6,414,866 to Huggett et al. Reconsideration of this rejection is respectfully requested.

Claims 2 and 6 depend from claim 1. As noted above, it is believed that claim 1 is patentable over Farkas et al. for at least the reasons described above. Further, it is respectfully submitted that claim 1 is patentable over Farkas et al. in view of Huggett et al., since Farkas et al. and Huggett et al., either alone or in combination, fail to show or suggest the patentable features of claim 1 described above.

Accordingly, it is respectfully submitted that claim 1, and the claims depending therefrom, including claims 2 and 6, are patentable over the cited art for at least the reasons described above.

Claims 3-5 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Farkas et al. in view of U.S. Patent No. 6,690,230 to Pelly. Reconsideration of this rejection is respectfully requested.

Claim 3-5 depend from claim 1, either directly or indirectly. As noted above, it is believed that claim 1 is patentable over Farkas et al. for at least the reasons described above. Further, it is respectfully submitted that claim 1 is patentable over the combination of Farkas et al. and Pelly,

since Farkas et al. and Pelly, either alone or in combination, fail to show or suggest the patentable features of claim 1 described above.

Accordingly, it is respectfully submitted that claim 1 and the claims depending therefrom, including claims 3-5, are patentable over the cited art for at least the reasons described above.

Claims 8 and 9 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Farkas et al. in view of "Active EMI Filter for Switching Noise of High Frequency Inverters" by Takahashi et al. (hereinafter "Takahashi et al."). Reconsideration of this rejection is respectfully requested.

Claims 8 and 9 depend from claim 1. As noted above, it is believed that claim 1 is patentable over Farkas et al. for at least the reasons described above. Further, it is respectfully submitted that claim 1 is patentable over Farkas et al. in view of Takahashi et al., since Farkas et al. and Takahashi et al., either alone or in combination, fail to show or suggest the patentable features of claim 1 described above.

Accordingly, it is respectfully submitted that claim 1, and the claims depending therefrom, including claims 8 and 9, are patentable over the cited art for at least the reasons described above.

In light of the remarks and amendments made herein, it is respectfully submitted that claims 1-9 of the present application are patentable over the cited art and are in condition for allowance.

Favorable reconsideration of the present application is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on: March 24, 2006:

Keith J. Barkaus

Name of applicant, assignee or
Registered Representative


Signature

March 24, 2006

Date of Signature

LCD:KJB/jl/lac

Respectfully submitted,



Keith J. Barkaus

Registration No.: 51,431

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

Telephone: (212) 382-0700